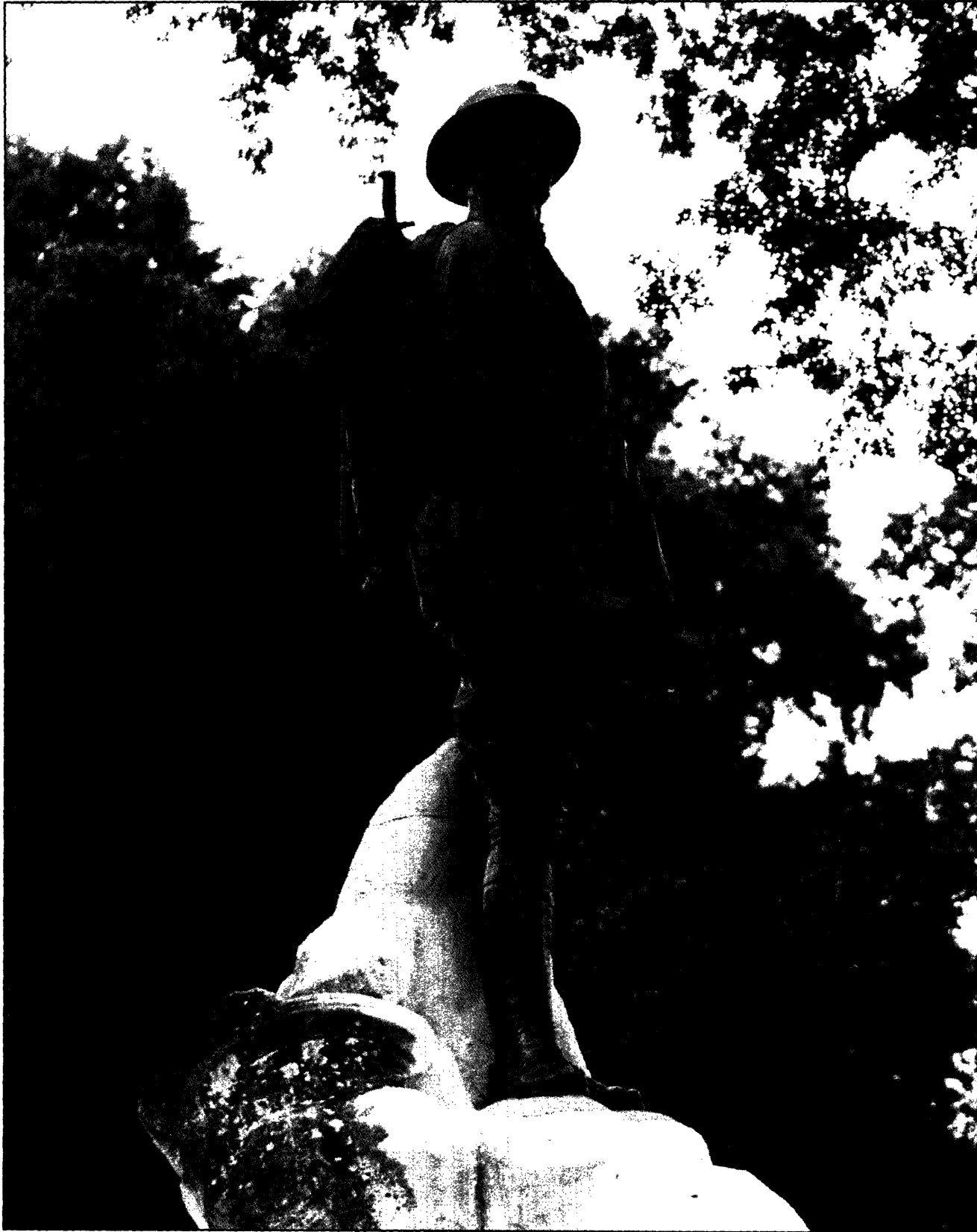


MASSACHUSETTS INSTITUTE OF TECHNOLOGY



Security Studies Program

ANNUAL REPORT

1997-1998

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 1998		2. REPORT TYPE N/A		3. DATES COVERED -	
4. TITLE AND SUBTITLE Massachusetts Institute of Technology Security Studies Program				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Security Studies Program Massachusetts Institute of Technology 292 Main Street (E38-600) Cambridge, MA 02139				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT SAR	18. NUMBER OF PAGES 40	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

INTERSERVICE RIVALRY THE WAY IT ONCE WAS

COVER

"Iron Mike" Crusading for Right was sculpted to honor the American Soldier who fought in France during World War I. The Military Governor of Paris asked Frenchman Charles Raphael Peyre to design the statue during the summer of 1918 for the Musee de l'Armee at the Invalides in Paris. In May 1919, it was exhibited at the Exposition des Beaux Arts of the Grand Palais des Champs-Elysees, in Paris.

Marine Private Carl J. Millard, after being wounded twice while serving in a front-line unit in France, was temporarily assigned to a military police unit in Paris. He was selected from 200 soldiers to be the model for the statue which is beautifully detailed, right down to the Marine Corps emblem on the helmet.

As the statue was unveiled, Allied Expeditionary Force commander General John J. Pershing stepped up to the front of the podium, looked down on the statue and saw the Marine Corps emblem on the tin hat, atop the statue there with his Springfield rifle and heavy pack. General Pershing did an about face and marched off the podium with his staff.

Peyre refused to take the emblem off the helmet and the Army refused the statue. The Chief Paymaster, U.S. Marines, France, Major D.B. Wills, suggested to the Major General Commandant George Barnett on March 24, 1919, the purchase of *Crusading for Right* for use as a memorial to the Marines who had given their lives in World War I. The asking price for the statue was 50,000 francs. The statue was purchased through subscriptions from enlisted men and officers of the U.S. Marine Corps.

In March 1920, the Commission on Fine Arts rejected the statue as an adornment in the city of Washington and could not advise Congress to set apart a space for it in one of the city's parks. The statue was moved to the Marine base at Quantico, VA. Three tablets were erected in the memory of the officers and men of the 6th Machine Gun Battalion, 5th Regiment and 6th Regiment, United States Marines, "who gave their lives for their country in the World War in 1918" by the Thomas Roberts Reath Marine Post No. 186, American Legion, on November 10, 1921. On December 8, 1921, the statue was dedicated.

Cover Photo: Corporal William Chad Williams, USMC
Combat Photographer

TABLE OF CONTENTS

2	DIRECTOR'S STATEMENT
7	FACULTY
11	SENIOR FELLOWS
12	WORKING GROUPS
13	SEMINARS
18	CONFERENCES AND SYMPOSIA
22	FIELD TRIPS
23	PUBLICATIONS
26	TEACHING
29	DEGREE RECIPIENTS
29	GRADUATE STUDENTS
31	VISITORS AND AFFILIATES

SECURITY STUDIES PROGRAM
Massachusetts Institute of Technology
292 Main Street (E38-602)
Cambridge, MA 02139

Tel: (617) 253-8075
Fax: (617) 258-7858

SECURITY STUDIES PROGRAM

The Security Studies Program (SSP) is a graduate-level, research and educational program based at the MIT Center for International Studies. It traces its origins to two initiatives. One is the teaching on international security topics, and most particularly on defense budgeting, that Professor William Kaufmann began in the 1960s in the MIT Political Science Department. The other is the MIT-wide seminars on nuclear weapons and arms control policy that Professor Jack Ruina and Professor George Rathjens began in the mid-1970s.

Initially called the MIT Defense and Arms Control Studies Program, SSP's teaching ties are primarily, but not exclusively, with the Political Science Department at MIT. The SSP faculty, however, includes natural scientists and engineers as well as social scientists. Distinguishing the Program is its ability to integrate technical and political analyses in studies of international security issues.

Several of the SSP faculty members have had extensive government experience. They and the other Program faculty advise or comment frequently on current policy problems. But the Program's prime task is educating those young men and women who will be the next generation of scholars and practitioners in international security policy making. The Program's research and public service activities necessarily complement that effort.

The Center for International Studies is a major unit of the School of Humanities and Social Sciences at MIT and seeks to encourage the analysis of issues of continuing public concern. Key components of the Center in addition to SSP are Seminar XXI, which offers training in the analysis of international issues for senior military officers, government officials, and industry executives; and the MIT Japan Program, which conducts research and educational activities to further knowledge about Japanese technology, economic activities, and politics.

DIRECTOR'S STATEMENT

OVERVIEW

Blame it on democracy and capitalism. Democracy gives us responsive government. Capitalism gives us consumerism. Both combine to give us a large middle class and a culture that emphasizes individualism. Continue to follow the arrows as the great balding sage would tell us because they lead to the explanations for America's victory in the Cold War, its certain unwillingness to police the world, its likely withdrawal from Europe, and the approaching dismantling of its super professional military.

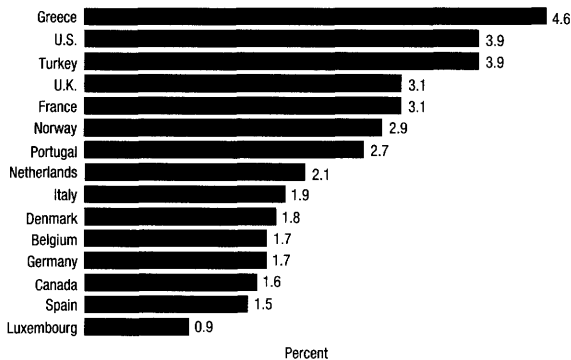
Eugene Gholz, Allen Kaufman and I have written a wonderful but strangely as yet unpublished paper on how America won the Cold War. Although the paper argues quite convincingly that the war was won because America mastered a set of institutional relationships — civil/military, military/military, military/industry, and military/science and technology — that effectively mobilized the resources needed for the 45 year long and ever more technological struggle with the Soviets, I would admit, and I am sure my collaborators would too, that the mobilization was constrained by the popular preference for consumption over taxes, the need to avoid bankrupting the economy and the government. No doubt the ability of Americans to field technologically advanced forces while enjoying the consumer benefits of a middle class life — cars, appliances, a house in the suburbs, and gourmet coffee — wore down the Soviet will to resist and hastened the collapse of the Evil Empire. We had our cake and could eat it as well.

This affluence, without the military prowess, spread to most of Europe and parts of Asia with our protection and assistance. Gradually their societies have become more democratic and more capitalistic, making their citizens more like ours: e.g. addicted to celebrities, hypocritically claiming to be devout environmentalists while continuing to buy power mowers, somewhat overweight, unwilling to have their children serve in the military, let alone get killed separating this clan from that one on a peacemaking mission.

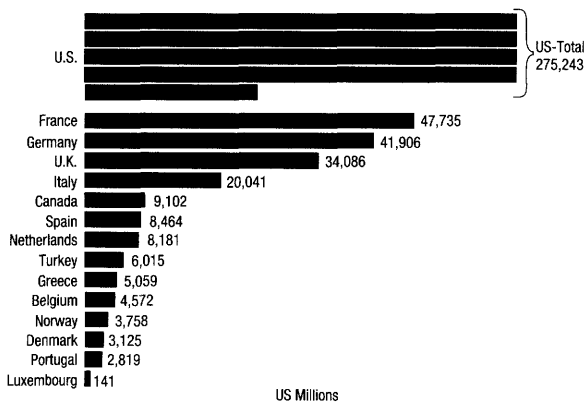
Everywhere the middle class feels unloved, and everywhere it is the most subsidized segment of the population. In America, the middle class keeps clamoring for tax breaks, but wants untouched Medicare and Social Security which involve large interclass as well as intergenerational transfers that overwhelmingly favor the middle class. In fact, our politicians cannot do enough for the middle class, the class to which nearly all Americans claim affiliation if not true membership. How about another tax subsidy for your children's college education? How about another IRA or 401(k) type plan? How about reducing the inheritance tax or restoring that home office deduction? If there are cuts in spending then let them be made in the domestic welfare programs and the supposedly huge foreign aid effort.

In Europe, the middle class is just getting the full benefits of consumerism, having previously enjoyed many state directed protections as producers and purveyors of goods and services. During the Cold War Europeans concentrated on gilding their social welfare systems, downplaying the threat to the East, and being contemptuous of Americans for not doing the same. Of course, they had the peace of mind provided by three hundred thousand plus American troops stationed in Europe backed up by our substantial defense budget, our technologically advanced weapon systems and an eager Strategic Air Command.

A Comparison of Defense Expenditures: NATO Countries 1995
Defense expenditures as a percentage of GDP (Market price)



Total defense expenditures (US \$M)



SOURCE: *Statement on the Defence Estimates* Directorate of Defense Policy, London, UK, May 1996.

The Japanese government, and to a large extent those of our other Asian allies, concentrated attention entirely on economic growth without much of a nod to either their consumers or their certain to grow retirement populations. But with national prosperity came the yearning for democracy and consumption. An Asian middle class is building despite the resistance of local oligarchies and the recent economic stress Asia has suffered.

Not surprisingly, the Europeans and the Asians have a continuing fondness for American military protection. The Europeans want an American managed and manned NATO to expand Eastward to contain the chaos of the Soviet disintegration and those bothersome refugees who flee westward. The Asians see no need for an American withdrawal from Japan and Korea, hoping that the American presence in the region will temper a budding arms race among neighbors who are recently affluent, but longtime antagonists. Add the tasks of keeping Saddam and Iran away from oil rich Saudi Arabia and the Clinton Administration's desire to have America lead "The Coalitions of the Good" to separate the warring tribes of Africa, the Caribbean, the Balkans, and

you have a formula for a large (Cold War sized) defense budget and a military that is constantly going places and doing things.

Although the American military may have reservations about particular assignments, it very much likes the world wide scope of operations these projects mandate. With them, there is still need for a CINCEUR, a 7th fleet, F-15Cs, air tasking orders, and the 23d MEU. Of course, the end of the Cold War has brought significant reductions in force levels and a constant parade of scenarios, war games, Joint Staff studies, and service reorganization announcements, but without some real contingencies such as Somalia and Bosnia, the military's rations would be much shorter than they are today.

This is likely only a passing interlude. A ten year wind down may be too brief for a 45 year war. Looming ahead are the retirements of the baby boomers preceded by the college and nest building years of their "hot house" children (a wonderful descriptive offered by Barry Posen for the carefully raised offspring of our colleagues and their class). The decisive war of the future will surely be between our middle class and those of our Cold War allies. Both have grown accustomed to being subsidized by the U.S. federal government. Ours expects subsidized education, unlimited medical services, and the ability to transfer their

**DIRECTOR'S
STATEMENT**

wealth to their children. The Europeans and Asians want all the above plus the security offered by a constantly patrolling, well trained and well equipped American military. They live in bad neighborhoods and benefit greatly from nearly free protection offered by our forces. But if the choice is between maintaining America's global protection service and domestic entitlement programs, the American middle class will surely prefer its own subsidies and will raid a defense budget that defends others more than it defends themselves.

Add the likely unwillingness of the hot house children to suffer the career disruptions and physical risks of military service and the future seems clearer. The most popular current movie is "Saving Private Ryan," a very bloody recreation of the fighting between American forces and the Germans during the Second World War. As Edward Rothstein points out in a *New York Times* review of war movies, in "Ryan" there is no pretense that patriotism matters. Rather, the justification offered by Captain Miller (Tom Hanks) for undertaking the heroic mission that is the center of the movie is entirely personal — to get back home to his wife. "Ryan," according to Rothstein, privatizes patriotism. Re-

member, America entered the Second World War only after it was attacked. How eager will a generation raised on cable TV and Sport Utility Vehicles be to experience directly the gore of noble wars of choice in very far away places? Not much, I believe.

Of course, not all of my colleagues share fully my opinions. Instead, we have continuing debates on the contribution of allies, the possibility for cooperative security arrangements, the likely impact of casualty fears on U.S. foreign ventures, and all the other points that I see so clearly and they apparently do not. I can assure you that none of our fellows or students suffer penalties for joining the debates which they are quick to do.

One of the major ways the Security Studies Program explores security policies for the new millennium is through conferences. This year was a particularly busy one in this regard. Ted Postol and George Lewis organized an unprecedented set of meetings between Japanese and Chinese experts on ballistic missile defense to explore the implications of defense for regional stability. This was followed



Don't look now, but these guys have feathers on their hats



The Director contemplates the littoral strategy

by a week-long conference of Russian and American experts to discuss nuclear weapons reduction options and the state of Russian forces. These Cambridge based meetings explored crucial issues for maintaining world peace, but were neglected by both the relevant government and the media.

The venue changed to London for a conference on the future of the U.S. and European Defense Industries that we organized in partnership with the Centre for European Reform (CER). Attended by senior officers from the UK, France and Germany as well as executives from major European and American defense firms, the conference examined the opportunities for industry restructuring, including cross continent collaboration and the formation of a consolidated European weapons development and production firm. The conference followed on work that Eugene Gholz and I did for a Council on Foreign Relations panel and a Social Science Research Council project.

Prior to the London sessions, I organized a conference in Cambridge on U.S. defense privatization policies which we did with the assistance of ICF Kaiser, a leading environmental design and construction firm. The definition of privatization used for the conference included combat service support as well as industrial and base management func-

tions. Thus we had participation from M.P.R.I. of Croatian fame, Dyn Corp, the current LOGCAP contractor, and Duke Power, which is taking over the energy management chores at Fort Bragg. The key speakers were retired Admiral "Bud" Flanagan, who as CINCLANT worked to prioritize many of the base housing and base management functions for the Atlantic Fleet, and Lt. General Schwartz who as Commander V Corps is responsible for the heavy combat punch of the U.S. Army and Fort Hood, the home of two armor divisions. Especially good presentations

were offered at the conference by our own Jeremy Shapiro and Sandy Weiner.

Associate Director Owen Cote continued his conference series on naval warfare missions this year with one on Precision Strike from the Sea that brought together security policy specialists with experts in cruise missiles, carrier operations, submarine construction, and operational communications. The discussion focused on the possibility of options for a deep strike role using naval platforms. The arms control possibilities of such a program were addressed by Ambassador Linton Brooks.

In the Spring we had two conferences. The Fifth Annual General James H. Doolittle Conference addressed the future of defense research and had senior representation from the Office of the Secretary of Defense and each of the armed services. Walter Morrow, the Director of MIT's Lincoln Laboratory and the co-chair of a Defense Science Board panel on research was the main speaker. At the conference luncheon we heard from RADM Gaffney, the Chief of Naval Research, who was enjoying his first visit to MIT and who told us that he was soon to be double hatted to a research management position in the Office of the Chief of Naval Operations, both facts that I think are revealing signs of the times — MIT is less focused on defense research than it once

**DIRECTOR'S
STATEMENT**

was and defense research is more under the direction of military rather than civilian leadership than it was during the Cold War.

A wise enemy will fight us in cities where the risk of casualties is always high and the limits of technology readily apparent. The options for Urban Warfare was the topic of our last conference of the year, this one held at Hanscom Air Force Base in Bedford, Massachusetts and organized by Lt. Col. Rick Reece, our Marine Corps fellow. At the conference the officers in charge of Urban Warfare developments in the Marine Corps and Army spoke. Also making presentations were Mark Bowden, a reporter for the Philadelphia Inquirer who has written a gripping book (soon to be made into a movie) about the awful fight in Mogadishu, and MG Robert Scales, Commandant of the Army War College, a PhD in history, and a leading military intellectual who is helping shape the Army's combat doctrine.

Our graduate students, many working under the direction of Steve Van Evera and Barry Posen, are increasingly focusing their dissertations on issues of U.S. intervention in civil conflict and humanitarian relief crises. The issues being addressed include incidents of genocide, the credibility of intervention threats, the role of the media and non-governmental organizations in promoting intervention candidates, and the success outside military forces have in peace making and state saving interventions. I am happy to report that we even had four dissertations completed, breaking an eighteen month drought.

The open expression of nuclear capabilities by India and Pakistan drew our attention. Marvin Miller, in particular, was involved in anti-proliferation policy discussions and continued to examine the likely efficacy of Western training bans for students from select countries. Pugwash Secretary General George Rathjens, Carl Kaysen, and Jack Ruina also participated in anti-proliferation discussions including some off the reservation.

It was a year also of important gains and losses. On the plus side, Tom Christensen, recently of Cornell, has joined the Program as our expert on China and

as an Associate Professor of Political Science with the MIT Department. Tom Christensen and Dick Samuels, who joined us last year, give us significant standing in East Asian security studies. Cindy Williams, recently head of National Security Studies at the Congressional Budget Office and MG Roland Lajoie, U.S. Army (Ret), and recently head of U.S. nuclear and chemical weapons reduction efforts in the states of the former Soviet Union, have joined the Program as Senior Fellows. Kristen Cashin and Amy Briemer and have joined our administrative staff. On the minus side, Annmarie Cameron has shifted over to the MIT Office of Special Community Services, having apparently suffered one pun or one cat story too many. No longer eligible to be a member of our New England Professors military base touring group, Mike Desch has left the Olin Institute at Harvard for the University of Kentucky.

As always, we wish to thank publicly those individuals and organizations who helped the program during the year. Kenneth Oye, director of our host center, and Philip Khoury, our much maligned but sincerely solicitous Dean deserve strongest praise. So too does Kate Follen, our graphics designer. And we are very grateful to our several financial sponsors, the Carnegie Corporation of New York, the Ford Foundation, The John D. and Catherine T. MacArthur Foundation, the Smith Richardson Foundation, the W. Alton Jones Foundation, Newport News Shipbuilders, Lockheed Martin, Syntek, Lincoln Laboratory, Electric Boat, and ICF Kaiser.



FACULTY

HARVEY M. SAPOLSKY is Professor of Public Policy and Organization in the Department of Political Science and Director of the MIT Security Studies Program. Dr. Sapolsky completed a BA at Boston University and earned an MPA and PhD at Harvard University. He has worked in a number of public policy areas, notably health, science, and defense and specializes in effects of institutional structures and bureaucratic politics on policy outcomes. In the defense field he has served as a consultant to the Commission on Government Procurement, the Office of the Secretary of Defense, the Naval War College, the Office of Naval Research, the RAND Corporation, Draper Laboratory, and Johns Hopkins' Applied Physics Laboratory, and has lectured at all of the service academies. He is currently focusing his research on three topics: interservice and civil/military relations; the impact of casualties on U.S. use of force; and the future structure of defense industries. Professor Sapolsky's most recent defense-related book is titled *Science and the Navy*, and is a study of military support of academic research.



Tom Christensen, who promises an informal pose next year.

THOMAS J. CHRISTENSEN is Associate Professor of Political Science at MIT. He formerly was an Associate Professor of Government at Cornell University and Olin National Security Fellow at Harvard University's Center for International Affairs and a Social Science Research Council/MacArthur Foundation Fellow in International Peace and Security. He received his PhD in Political Science from Columbia University in 1993, an MA in International Relations from the University of Pennsylvania in 1987, and a BA in History from Haverford College in 1984. Christensen's major research and teaching interests are in the following fields: Chinese foreign policy, East Asian international relations, international security politics, and international relations theory. His published works include *Useful Adversaries: Grand Strategy, Domestic Mobilization, and Sino-American Conflict, 1947-58* (Princeton University Press, 1996) and several articles on topics ranging from China's foreign relations to security alliances in Europe. He has done extensive field research in China.

OWEN COTE joined the MIT Security Studies Program in 1997 as an Associate Director. Recently Assistant Director of the International Security Program at Harvard's Center for Science and International Affairs, Owen remains co-editor of the Center's journal, *International Security*. He received his PhD from MIT, where he specialized in U.S. defense policy and international security affairs. His dissertation, which he is now revising for publication, analyzed the sources of innovative military doctrine, using cases that compared U.S. Navy responses to different Cold War nuclear vulnerability crises. He has written on nuclear force structure issues, the politics of strategic mobility, and was a key participant and author in CSIA's collaborative book projects on nuclear weapons in the former Soviet Union, including *Soviet Nuclear Fission*, *Cooperative Denuclearization*, and *Avoiding Nuclear Anarchy*. After graduating from Harvard College and before returning to graduate school, he worked at the Hudson Institute.

FACULTY

CARL KAYSEN is David W. Skinner Professor of Political Economy Emeritus in the Program in Science, Technology, and Society and a Senior Lecturer at the MIT Center for International Studies. Dr. Kaysen earned his BA in Economics at the University of Pennsylvania, and his PhD at Harvard University, where he was an economics professor from 1950-1966. From 1966 until 1976, when he came to MIT, he was Director of the Institute for Advanced Study in Princeton and from 1961-1963 he was the Deputy Special Assistant for National Security Affairs to President Kennedy. He has served as a consultant to RAND, the Defense Department, and the CIA. Chairman of the Committee on Security Studies of the American Academy of Arts and Sciences, Dr. Kaysen is currently engaged in organizing a project under the Committee's auspices on emerging norms of justified international intervention.

GEORGE N. LEWIS spent five years as a research associate in Cornell University's Department of Applied Physics after receiving his PhD in experimental solid state physics from Cornell's Physics Department in 1983. Prior to coming to MIT in 1989 he was a fellow in the Peace Studies Program at Cornell and at the Center for International Security and Arms Control at Stanford. His research has included studies of arms control and verification for sea-launched cruise missiles and other non-strategic nuclear weapons, air surveillance and early warning systems, and the effectiveness of tactical missiles and of defenses against such missiles and the performance of Patriot in the 1991 Gulf War. Dr. Lewis is now conducting research on a number of issues relevant to ballistic missile defense and deep reductions in nuclear weapons.

MARVIN M. MILLER recently retired from the position of Senior Research Scientist in the Department of Nuclear Engineering at MIT. He is now a Research Affiliate at the MIT Center for International Studies and the Department of Nuclear Engineering. After undergraduate work at the City College of New York, he received an MA in Physics from the University of Rochester and a PhD in Electrical Engineering from the Polytechnic Institute of New York. Prior to joining MIT in 1976, Dr. Miller was an associate professor of electrical engineering at Purdue University conducting research on laser theory and applications. At MIT his research has focused on arms control, particularly nuclear proliferation, and the environmental impacts of energy use. In the proliferation area, his major interests are the Middle East and South Asia; he has also worked on such issues as international safeguards and export controls on sensitive nuclear technologies, the disposition of plutonium from retired nuclear weapons, and the proliferation implications of foreign nationals studying at U.S. universities. From 1984 to 1986, Dr. Miller was a Foster Fellow with the Nuclear Weapons and Control Bureau of the U.S. Arms Control and Disarmament Agency (ACDA), and is currently a consultant on proliferation issues for ACDA and the Argonne National Laboratory.

BARRY R. POSEN is Professor of Political Science at the Massachusetts Institute of Technology and one of the co-directors of Seminar XXI, an educational program for senior military officers, government officials and business executives in the national security policy community. He has written two books, *Inadvertent Escalation: Conventional War and Nuclear Risks* and *The Sources of Military Doctrine*, which won two awards: The American Political Science Association's Woodrow Wilson Foundation Book Award, and Ohio State University's Edward J. Furniss Jr. Book Award. Prior to coming to MIT, he taught at Princeton University, and has also been Guest Scholar at the Brookings Institution; Post-Doctoral Fellow at the Center for International Affairs at Harvard; Council on Foreign Relations International Affairs Fellow; Rockefeller Foundation International Affairs Fellow and Guest Scholar at the Center for Strategic and International Studies; and Woodrow Wilson Center Fellow, Smithsonian Institution. Dr. Posen's current research includes work on U.S. military strategy and force structure, regional military competitions, and nationalism.



Barry Posen on vacation

THEODORE A. POSTOL is Professor of Science, Technology and National Security Policy in the Program in Science, Technology, and Society at MIT. He did his undergraduate work in Physics and his graduate work in Nuclear Engineering at the Massachusetts Institute of Technology. After receiving his PhD, Dr. Postol joined the staff of Argonne National Laboratory, where he studied the microscopic dynamics and structure of liquids and disordered solids using neutron, x-ray and light scattering, along with computer molecular dynamics techniques. Subsequently he went to the Congressional Office of Technology Assessment to study methods of basing the MX Missile, and later worked as a scientific adviser to the Chief of Naval Operations. After leaving the Pentagon, Dr. Postol helped to build a program at Stanford University to train mid-career scientists to study developments in weapons technology of relevance to defense and arms control policy. In 1990 Dr. Postol was awarded the Leo Szilard Prize from the American Physical Society. In 1995, he received the Hilliard Roderick Prize from the American Association for the Advancement of Science.

GEORGE W. RATHJENS became Professor in the Department of Political Science after service with the Institute for Defense Analyses, the U.S. Arms Control and Disarmament Agency, the Advanced Research Projects Agency of the Department of Defense, the Office of the President's Science Advisor, and the Weapons Evaluation Group of the Department of Defense. He has also served in the Department of State. Dr. Rathjens received his BS from Yale University and completed his PhD in chemistry at the University of California at Berkeley. He is active in a number of associations, including the Council for a Livable World of which he has been Chairman, and the Federation of American Scientists of which he is Sponsor, Councilor, and Past Chairman. Dr. Rathjens' major policy interests are nuclear arms issues, environmental problems, with special emphasis on conflict and the environment, and post-Cold War international security questions, including particularly problems of intervention in instances of ethnic and intrastate conflict.

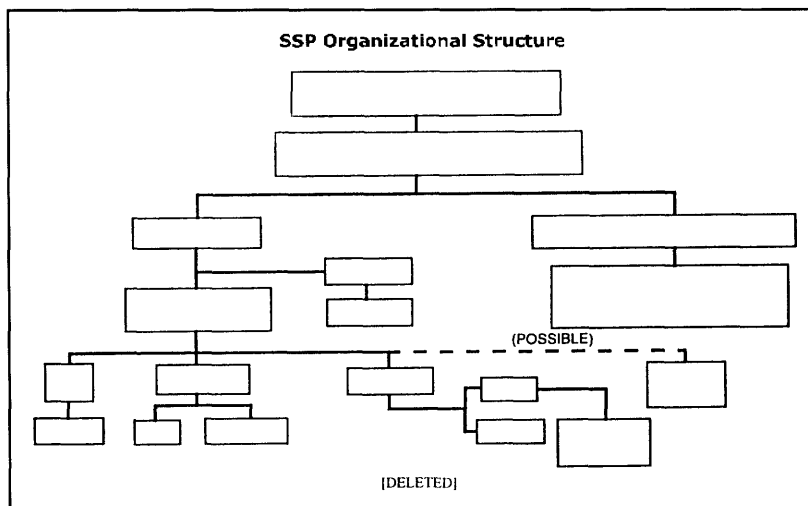
JACK RUINA is Professor of Electrical Engineering. Dr. Ruina was an undergraduate at the City College of New York and did his graduate work at the Polytechnic Institute of Brooklyn, earning his MEE and DEE there. He has been granted the Outstanding Alumnus Award from both colleges. He taught at Brown University and the University of Illinois; at the latter he also headed the Radar Division of the Control System Laboratory. While on leave from the University of Illinois, he served in several senior positions at

FACULTY

the Department of Defense, the last being Director of the Advanced Research Projects Agency and was honored with the Fleming Award for being one of ten outstanding young men in government in 1962. He served on many government committees including a presidential appointment to the General Advisory Committee, 1969-1977, and acted as Senior Consultant to the White House Office of Science and Technology Policy, 1977-1980. He also held the post of President of the Institute for Defense Analyses. At MIT, he has held the position of Vice President for Special Laboratories and was Secretary of the MIT Faculty. Dr. Ruina is currently Vice Chairman of the Board of Trustees for MITRE Corporation. He was instrumental in establishing the Security Studies Program and was its first Director. Dr. Ruina's special interest is in strategic weapons policy.

RICHARD SAMUELS is Ford International Professor of Political Science and recently Department Head. Professor Samuels specializes in comparative politics and political economy. He was a Fulbright scholar in Japan (1977-79, 1983-84, and in 1991-92), and teaches subjects on Japanese politics and public policy, and the comparative politics of business-government relations. He is the author of numerous articles on Japanese and comparative politics, and *The Business of the Japanese State: Energy Markets in Comparative and Historical Perspective*; *Politics of Regional Policy in Japan: Localities Incorporated*; and co-editor of *Japanese Scientific and Technical Information in the United States*. Professor Samuels' most recent book *Rich Nation, Strong Army* (winner of the 1996 John Whitney Hall Prize, among other awards) concerns the Japanese technology process, the aerospace industry, and relations between the military and civilian economies. His current research compares Italian and Japanese political change. He is Director of the MIT-Japan Program and is the vice-chairman of the Committee on Japan of the National Research Council.

STEPHEN VAN EVERA earned his BA in government from Harvard and his MA and PhD in political science from the University of California at Berkeley. Dr. Van Evera works in several areas of international relations: the causes and prevention of war, U.S. national security policy, U.S. foreign policy, U.S. intervention in the Third World, international relations of the Middle East, and international relations theory. He has published on the causes of war, American foreign policy, American defense policy, social science methodology, and has a book forthcoming on the causes and prevention of war. From 1984-1987 he was managing editor of the journal *International Security*. He has taught international relations at Princeton, Tufts, and the University of California at Davis, as well as MIT. Dr. Van Evera has also held research fellowships at the Woodrow Wilson Center in their National Security Studies Program, and at the Harvard Center for Science and International Affairs.



SENIOR FELLOWS

ROBERT ART is Christian Herter Professor of International Relations at Brandeis University and a Senior Fellow with MIT SSP. He has taught at Brandeis for thirty years and is a former Dean of the Graduate School at Brandeis. He co-edits the Cornell Series in Security Studies with Robert Jervis and Stephen Walt and is on the Board of Editors of the journals *International Security*, *Political Science Quarterly*, and *Security Studies*. Professor Art teaches courses in international relations, American foreign policy, national security affairs and the global environment. His published work centers on American foreign policy and national security affairs. Currently he is working on a book on American grand strategy after the Cold War.

SHERMAN FRANKEL is an Emeritus Faculty Member in the Physics Department at the University of Pennsylvania. He specializes in Elementary Particle Physics and Physics and Public Policy. He has been a Guest Fellow at the Center for International Security and Arms Control at Stanford, and the Brookings Institution. His work in Physics and Public Policy deals with problems in strategic defense, post-launch control of nuclear-armed missiles, and questions dealing with arms control treaties. He is presently analyzing problems with the physics of theater missile defense

JAMES E. GOODBY is Distinguished Service Professor, Carnegie Mellon University and Guest Scholar, The Brookings Institution. During his 40-year diplomatic career he was officer-in-charge for nuclear test ban negotiations; vice-chair, U.S. delegation, START I; chief U.S. negotiator for safe and secure dismantlement of nuclear weapons; head, U.S. delegation, conference on confidence- and security-building measures in Europe; member, State Department policy planning staff; ambassador to Finland; and political counselor, U.S. Mission to NATO. He is the author of *Europe Undivided*, a book concerning U.S.-Russian relations that will appear in February. He is the winner of the Heinz Award in Public Policy, the Commander's Cross of the Order of Merit of Germany, and the Presidential Distinguished Service Award.

MAJOR GENERAL ROLAND LAJOIE, US Army (Ret) left U.S. Government Service on February 1, 1998, after serving almost four years as Deputy Assistant to the Secretary of Defense for Cooperative Threat Reduction. In this position he managed the Nunn-Lugar Program mandated by Congress in 1991 to assist the former Soviet Union to eliminate or reduce weapons of mass destruction. Prior to that, General Lajoie had a 35-year military career during which he held a wide variety of important national security positions including Associate Deputy Director, Central Intelligence Agency; Deputy Director for International Negotiations, Joint Chiefs of Staff; first Director, U.S. On-Site Inspection Agency; U.S. Defense Attaché, American Embassy, Moscow; and Chief, U.S. Military Liaison Mission, Potsdam, Germany.

SSP WORKING GROUPS

The eight working groups of the MIT Security Studies Program bring together, usually on a weekly basis, faculty and students interested in examining a topic through individual and collaborative projects. Group sessions include research reviews, thesis presentations, guest speakers, and research design efforts. All groups report on their progress at SSP symposia.

Asian Energy and Security Issues

Richard Samuels
Working Group Leader

Conventional Forces

Barry Posen
Working Group Leader

Defense/Environmental Problems

Harvey Sapolsky
Working Group Leader

Defense Policy and Politics

Owen Cote and Harvey Sapolsky
Working Group Leaders

The Future of the Defense Industries

Harvey Sapolsky
Working Group Leader

New Directions in Security Policy

George Rathjens and Carl Kaysen
Working Group Leaders

Non-Proliferation Studies

Marvin Miller
Working Group Leader

Technical Studies in Defense and Arms Control Policy

Ted Postol and George Lewis
Working Group Leaders

SSP SEMINAR SERIES

The Security Studies Seminar series provides a forum for discussing current security topics and the varying disciplinary perspectives on security studies. This is the Program's main seminar series, and is held in the traditional Wednesday noon timeslot.

FALL 1997

September 12

Strategic Competition Among China, Taiwan, and Japan

Professor David Denoon, Department of Politics, New York University

September 16

Cryptography Today

Dr. David Kahn, author, "The Codebreakers: The Story of Secret Writing"

October 8

The Future of Military Space

John Pike, Director, Federation of American Scientists Space Policy Project

October 15

India's Energy Politics and National Security

Raju Thomas, Political Science Department, Marquette University

October 22

The Promise and Peril of Post Cold War Alliances

Peter Liberman, Political Science Department, Tulane University

October 29

Reducing Bloodshed: A More Effective Multilateral Approach to Controlling Conventional Conflict

Ambassador Jonathan Dean, International Security Advisor to the Union of Concerned Scientists

November 5

The Past and Future of Airborne Reconnaissance

John Entzminger, Deputy Director for Technology, Defense Airborne Reconnaissance Office (DARO)

November 12

U.S. Nuclear Weapons Research and Development Under a Comprehensive Test Ban

Christopher Paine, Senior Researcher, Natural Resources Defense Council

November 19

Radar: The Invention that Changed the World

Bob Buder, author

December 3

De-Alerting Strategic Forces

Bruce Blair, Senior Fellow, Brookings Institution

December 17

The Myth of U.S. Management of the Latin American Long Peace

Professor David Mares, Political Science Department, University of California at San Diego

SPRING 1998

SEMINAR SERIES

February 9

The Chemical Weapons Convention in the Middle East: Israeli Ratification Dilemmas and Options

Gerald Steinberg, Director, Arms Control & Non-Proliferation Project, BEST Center for Strategic and Political Studies, Bar Ilan University

February 11

One Insider's Look at the Quadrennial Defense review

Paul Nagy, Research Staff, DFI International

February 18

The Use and Abuse of Jointness

Mackukbin Owens, Professor of Strategy and Force Planning, Naval War College

February 25

Commercial Aircraft Security: Where is the Technology Today?

Richard Lanza, Senior Scientist, Department of Nuclear Engineering, MIT

March 4

Consultation and Authorization of the Use of Nuclear Weapons by Canada

John Clearwater, Canadian National Archives, Author of *Canadian Nuclear Weapons*

March 11

The Standoff Observation of Enemy Forces: From Project Peek to JointSTARS

Charles A. "Bert" Fowler, C.A. Fowler Associates

March 18

The Environment as a Security Issue: The Case of Global Warming

Sanford Weiner, Research Associate, Center for International Studies, MIT

March 31

The Emerging National Security Environment

Lt. General Paul K. Van Riper, U.S. Marine Corps (Ret.), Senior Fellow, Center for Naval Analyses

April 1

The NRO – Preparing for the 21st Century

Eric Sundberg, Special Assistant for Technology to the Director of the Advanced Systems & Technology Directorate, National Reconnaissance Office

April 8

Future Threats and Challenges: 1998-2018

LTG Patrick Hughes, U.S. Army, Director, Defense Intelligence Agency

April 9

Does Arms Control Have a Future?

Michael Nacht, Professor of Political Science, University of Maryland

April 17

Geopolitics of North Korea's Food Crisis

Chong-Ae Yu, Consultant to the International Security Program of the Rockefeller Foundations and the Conflict Resolution Program of the Carter Center

April 22

Expert vs. Lay Conflicts of Risk Intuition

Howard Margolis, Professor of Political Science, University of Chicago

April 29

Readiness of the Force

Captain Vic Guillory, U.S. Navy, Chief, Current Assessments Branch, J-3 Readiness Division, Joint Staff

May 6

Disarming Strangers: Nuclear Diplomacy with North Korea

Leon Sigal, Research Associate, Social Science Research Council and Columbia University

May 13

But Is It Socialization? International Institutional Effects on Chinese Arms Control Policy

Alastair Iain Johnston, Professor of Government, Harvard University

SPECIAL SEMINARS

This series offers the program the opportunity to hear on short notice from specialists on topics of current issues. Often the session is cosponsored by one of our working groups and stems from the group's research interest.

November 7

Cooperative Threat Reduction

Laura Holgate, Office of the Secretary of Defense

November 21

Russian Strategic Command and Control

Colonel Valery Yarynych (Ret), Russian Strategic Rocket Forces

March 30

National Security Act of 1947: Past, Present and Future

Owen Cote, Harvey Sapolsky, Doug Stewart and Carnes Lord, held at Fletcher School of Law and Diplomacy, Tufts University

April 1

Interservice Relations and Military Innovation

Owen Cote
Held at Naval War College
Newport, RI

April 30

The Battle of 73 Easting: the Role of Doctrine, Training, and Technology in the First Major Armored Battle of Desert Storm

Lt. General Don Holder; retired Deputy Commander of the Army's Training and Doctrine Command; Major H.R. McMaster; Lt. Colonel Mike Trahan

TECHNICAL SEMINARS

MIT SSP organizes the Technical Seminars as a means of bringing together the researchers in the Cambridge area working on technical aspects of arms control and security policy. These seminars emphasize presentations about technical work-in-progress by local researchers, with occasional seminars by outside speakers, and are often held as dinner meetings.

September 22

Ending the Arms Race?: Scientific-Technical Research for Preventive Limitation of New Military Technology

Juergen Altmann, Duisberg University, Germany.

November 13

Inertial Confinement Fusion and Fourth Generation Nuclear Weapons

Andre Gsponer, Director of the Industry Scientific Research Institute in Geneva, Switzerland

December 4

Russian Nuclear Forces in the Year 2007: The Case for START III

Paul Podvig, Researcher, Center for Arms Control, Energy and Environmental Studies at the Moscow Institute of Physics and Technology

March 19

A View on the Application of Overhead Imagery To Strengthen the IAEA Safeguards Regime

Dr. Zhang Hui, Arms Control Research Division of the Institute for Applied Physics and Computational Mathematics, Beijing, China.

April 6

The Nuclear Danger from Shortfalls in the Capabilities of Russian Early Warning Satellites

Professor Ted Postol, MIT Security Studies Program

**SEMINAR
SERIES**

WEAPONS SEMINARS

This series provides an opportunity for our military visitors to explain weapon developments within their service. It provides the non-professional with an introduction to the profession's tools.

October 17

ATACM Missiles

LTC Brenda Harris, Field Artillery, Department of the Army, Deputy Chief of Staff for Operations in Force and Development (FDG)

Major Paul Myrick, Staff, Secretary of the Army for Research and Development

October 27

AV-8B (Harrier) and Joint Strike Fighter

Major Bob Claypool and Major Mike Hile, USMC Headquarters, USMC

March 16

The F/A-18 HORNET, Workhorse of Naval Aviation

Major Martin Rollinger, USMC, F/A-18 Test Pilot and Deputy for Test Evaluation, F/A-18 Weapon System Support Activity, USMC

STAR SERIES SEMINARS

This series offers the program an opportunity to hear from senior government officers and military officers.

November 11

Bosnia Exit: Options and Limits

Colonel Michael Dziedic, USAF, Military Fellow at the Institute for National Strategic Studies

December 2

Information Age and Intelligence

Major General John F. Stewart, USA (ret.), Vice President and General Manager, GTE Government Systems, Electronic Defense Systems Division, Information Dominance.

May 14

Revising the National Security Act

Colonel Robert Work, USMC Headquarters, USMC

THE FUTURE OF WAR SEMINARS

This series is offered in conjunction with the Olin Institute for Strategic Studies at Harvard and the Center for Science and International Affairs at Harvard's Kennedy School of Government. The organizers believe that the end of the Cold War has reduced greatly the likelihood of a major power war, but do not doubt that there is a future for war nevertheless. The series was created to explore how wars are likely to occur and to be fought in the coming decades. Each program hosts one or more of the sessions.

October 30

The Emerging Balance of Power

Kenneth Waltz, Ford Professor of Political Science
Emeritus at the University of California at Berkeley.
Cambridge Center Marriott Hotel
Cambridge, MA

April 30

Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff and the Lies that Led to Vietnam

Major H.R. McMaster, 1st Squadron, 11th Armored
Cavalry Regiment, Opposing Forces NTC.
Harvard Faculty Club
Cambridge, MA

May 14

Russia's Security Issues

Professor Robert Legvold, Columbia University
Charles Hotel
Cambridge, MA

CONFERENCES AND SYMPOSIA

June 16-17, 1997

Theater Missile Defense and East Asian Security Conference

MIT Faculty Club, Cambridge, MA

The technical working group of SSP hosted a joint U.S.-China-Japan meeting on ballistic missile defenses and East Asian security. The meeting, organized by Professor Ted Postol, brought together small groups of senior-level Japanese and Chinese researchers and scientists. They brought a range of perspectives based on their experiences working within the scientific, governmental and military establishments of their respective countries.

This meeting was motivated by the lack of channel for face-to-face dialogue between Chinese and Japanese researchers, scientists and policy makers on ballistic missile defense issues. As far as we know, this meeting was the first time that high-level Japanese and Chinese persons had been brought together to discuss these issues. Because of the sensitive nature of the subject, particularly in Japan, the meeting was conducted on a completely off-the-record basis.

To get the meeting off to a smooth start, participants from SSP began by making introductory and background presentations, followed by a general discussion. Individual Chinese and Japanese participants then made short presentations aimed at illuminating the range of views held in their countries on questions relating to ballistic missile defenses.

We believe that this meeting was a very successful start towards establishing an ongoing and productive dialogue on missile defenses in east Asia. Participants from both countries indicated that they came out of the meeting with a clearer understanding of the situation of the other country and of the forces leading to possible decisions regarding ballistic missiles and ballistic missile defenses. There was a general feeling that a compromise on ballistic defense deployments might be possible that would meet Japan's requirements while avoiding a confrontation between the two countries. A follow-up meeting is planned in 1998-99, most likely in Beijing.

September 24, 1997

Military Outsourcing and Privatization

MIT Faculty Club, Cambridge, MA

A day-long conference on privatization and outsourcing took place on September 24, 1997, at the MIT Faculty Club. The conference considered the opportunities and limits of the trend toward relying more and more on the private sector for defense related activities.

A morning panel focused on infrastructure projects – base housing, clean ups, and the like. Representatives of industry and the military spoke on the experience to date. Retired Admiral William Flanagan, who was an advocate for infrastructure privatization, was the luncheon speaker.

The afternoon speaker focused on overseas deployments where contractors have had an increasing role recently. Speakers included representatives of the Corps of Engineers, the managers of the LOGCAP

contract which is the vehicle for outsourcing some military tasks in deployments; DynCorp, the incumbent LOGCAP contractor; and MPRI, which trains foreign militaries under U.S. contracts. The dinner speaker was Lieutenant General Thomas Schwartz, USA, General III Corps, Ft. Hood, TX. Sanford Weiner, Jeremy Shapiro, Barry Posen and Harvey Sapolsky represented the program at the sessions. ICF Kaiser cosponsored the conference.

November 3, 1997

Collaboration or Confrontation: Prospects for Transatlantic Alliances in the Defense Industry

Royal United Services Institute, London UK

The conference had sessions on the “Future of the U.S. Defense Industry,” “The Future of the European Defense Industry,” and “Prospects for Transatlantic Consolidation.” Harvey Sapolsky, Eugene Gholz and Charles Grant, the Defense Editor of the Economist, organized the conference. Sponsoring organizations included British Aerospace, Matra, GEC, Lockheed Martin and Newport News Shipbuilding. Each sponsor was represented at the conference by a panel participant. At lunch, John Weston, Group Managing Director, British Aerospace, discussed “The Need for International Partnerships,” and the guest speaker at the dinner session was John Speller, MP, Parliamentary Under Secretary of State for Defense. The conference was jointly sponsored by the MIT Security Studies Program and the Centre for European Reform.

December 8-9, 1997

Precision Strike from the Sea: New Missions for New Navy

The Second Annual Levering Smith Conference

Royal Sonesta Hotel, Cambridge, MA

Carrier battle groups have traditionally provided the naval contribution to the strike warfare mission, but recent experience shows that both the surface and submarine communities have a growing role to play in this mission area commensurate with their ability to employ long range precision weapons like Tomahawk. If the Navy is to greatly enhance its precision strike capabilities, it needs both to continue development of its traditional, carrier-based approach to this problem, and to exploit more vigorously the potential provided by innovative new strike warfare programs in its other platform communities.

A group of experts from industry, the services, OSD, FCRCs, congress, and academia convened for two days of presentations and discussion on a variety of questions designed to take a fresh look at precision strike from the sea. Featured speakers included Ambassador Linton Brooks, who delivered a luncheon talk on converting SSBNs to Cruise Missile Submarines, and the keynote dinner speaker was Vice Admiral Richard Mies, Commander, Submarine Forces Atlantic, who discussed “The Post Cold War Submarine Force.”

February 2-6, 1998

The Future of Russian-U.S. Strategic Arms Reductions: START III and Beyond

Royal Sonesta Hotel, Cambridge, MA

SSP hosted a joint U.S.-Russia meeting on “The Future of Russian-U.S. Strategic Arms Reductions: START III and Beyond.” The meeting was co-organized by the technical working group of SSP and the Center for Arms Control, Energy, and the Environment at the Moscow Institute of Physics and Technology. About 30 researchers from the United States and Russia participated in the meeting, as well as a few from other countries.



American soldiers in Camp Demi in Tuzla getting to know the neighbors

This meeting brought together U.S. and Russian military and technical analysts to collectively identify, examine, and analyze issues that will need to be resolved to achieve further progress in Russian-U.S. strategic arms reductions. While the discussions were informed by diplomatic and political considerations, the main focus was on technical-military issues. In particular, the meeting focused on issues that need to be resolved in order for the objectives of START II to be equitably and economically achieved while clearing the path to a START III treaty. It also focused on the issues that need to be resolved in START III to establish a sound basis for further follow-on reductions.

Each session of the meeting began with presentations by both Russian and U.S. analysts. These initial presentations aimed to establish a common understanding of key facts, and to identify issues that needed further exploration or debate. These were followed by an extended period of discussion and debate among the participants. The issues considered in these sessions included: the possible future development of U.S. and Russian nuclear forces, particularly in light of Russia's economic problems; how the forces could be structured to promote stability as well as further reductions; operational issues involving the forces, including prospects for de-alerting forces; issues raised by tactical nuclear weapons; and the relationship between nuclear reductions and ballistic missile defenses. The meeting environment was structured to allow opportunities for participants to meet both informally, to discuss issues privately, and as a large group, for structured collective discussion.

April 15, 1998

Defense Research after the Cold War

5th Annual Doolittle Conference

MIT Faculty Club, Cambridge, MA

Each year the program honors General Doolittle (MIT PhD '25) with a conference on a defense related topic. The conference had two panels, a luncheon and a dinner. The morning panel explored the question: "How Much Science Does the Government Need to Know?" The chair of the session was Dr. Robert Frosch, ex-NASA Administrator, Assistant Secretary of the Navy (R&D), Director of Research, General Motors, and currently at the Kennedy School of Government, Harvard University. Panelists for the inaugural session included: Dr. Tim Coffey, Director, Naval Research Laboratory; Dr. Daniel Hastings, Chief Scientist, U.S. Air Force; Dr. Brendan Godfrey, Director, Plans and Programs, Air Force Research Laboratory; and Dr. Fenner Milton, Chief Scientist, U.S. Army.

The luncheon speaker was RADM Paul Gaffney, Chief of Naval Research, followed by an afternoon panel assembled to consider "How Much Science Should DoD Buy and How?" Chaired by Professor Patrick Winston, Director of the MIT AI Lab, Chair, NRAC, the afternoon panel included: Dr. Helmut Hellwig, Deputy Assistant Secretary of the Air Force; Dr. Rodney Nichols, President and Chief Executive Officer, New York Academy of Sciences; Dr. Robert Gagosian, Director, Woods Hole Oceanographic Institute; and Dr. Subrata Ghoshroy, Staff, House National Security Committee.

The dinner speaker was Professor Walter E. Morrow, Jr., Director, MIT Lincoln Laboratory, who discussed the "DoD Science and Technology Program."

May 20-21, 1998

Urban Warfare Conference

Hanscom Air Force Base,

Bedford, MA

The MIT Security Studies Program sponsored a one-day conference on the problem of urban warfare. The conference explored issues of technology options, tactics, and impact on U.S. strategy of the likelihood that our interests or actions may require military operations in heavily populated areas of the world. The conference brought together subject matter experts from the U.S. Marine Corps, Army and Special Operations Command as well as security policy specialists from the MIT program and elsewhere. The featured speaker was MG Scales, Commandant of the Army War College.

FIELD TRIPS

October 24
MITRE
Bedford, MA

November 14
Draper Laboratory
Cambridge, MA

December 5
Sanders Associates
Lockheed-Martin
Nashua, NH

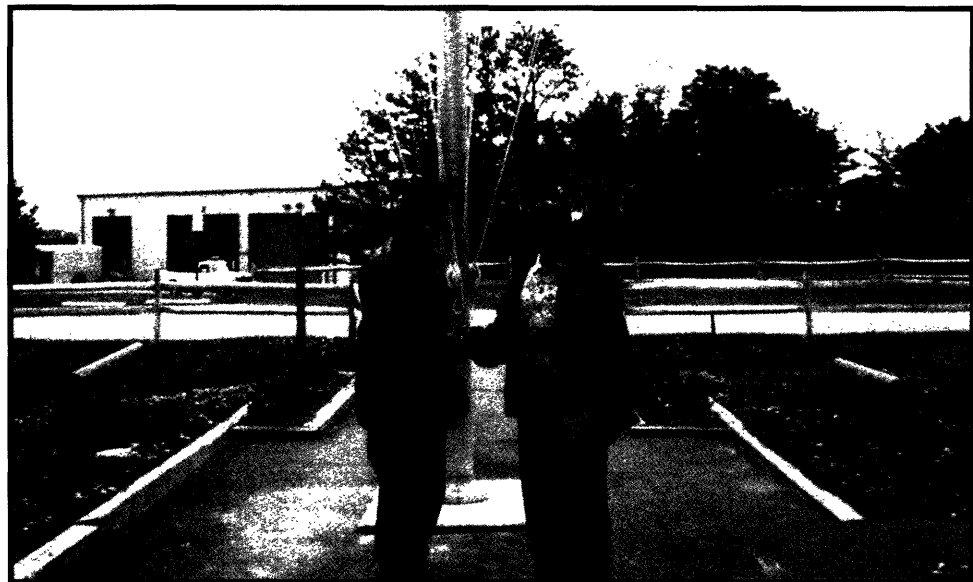
December 12
Lincoln Laboratory
Lexington, MA

January 20-30
National Training Center
Ft. Irwin, CA

February 20
Electronics Systems
Center/Rome Laboratory
Hanscom Air Force Base

March 20
Naval Undersea Warfare
Center,
Newport, RI

May 1
PAVE PAWS, US Coast
Guard Air Station
and 102nd Fighter Wing,
Massachusetts National
Guard
Otis Air Base
Cape Cod, MA



LtCol Al Kirkman (right), MIT's Air Force Fellow, meets Airman Al Kirkman at Otis. They are long lost cousins

SELECTED PUBLICATIONS

- Graham Allison, Owen Cote, Richard Falkenrath, and Steven Miller, "Avoiding Nuclear Anarchy," *The Washington Quarterly*, Vol. 20, No. 3 (Summer 1997).
- Michael E. Brown, Owen R. Cote, Jr., Sean M. Lynn-Jones, and Steven E. Miller, eds. *Theories of War and Peace* (Cambridge, MA: MIT University Press, 1998).
- Michael E. Brown, Owen R. Cote, Jr., Sean M. Lynn-Jones, and Steven E. Miller, eds. *America's Strategic Choices* (Cambridge, MA: MIT University Press, 1997).
- Michael E. Brown, Owen R. Cote, Jr., Sean M. Lynn-Jones and Steven E. Miller, eds. *Nationalism and Ethnic Conflict* (Cambridge, MA: MIT University Press, 1997).
- Owen Cote, Jr., *Precision Strike from the Sea: New Missions for a New Navy*, MIT Security Studies Program Conference Series, <http://web.mit.edu/ssp/>
- Owen Cote and Harvey Sapolsky, *Antisubmarine Warfare After the Cold War*, MIT Security Studies Program Conference Series, <http://web.mit.edu/ssp/>
- Owen R. Cote, "Why Buy More C-17s?" Letter to the Editor, *Aviation Week & Space Technology*, April 20, 1998.
- L. Forrow, I. Hilfand, B. Blair, G. Lewis, V. Sidel, T. Postol, B. Levy, H. Abrams, and C. Cassel, "Accidental Nuclear War: A Post-Cold War Assessment," *The New England Journal of Medicine*, April 30, 1998, pp. 1326-1331.
- Eugene Gholz, Daryl Press, and Harvey Sapolsky, "Come Home America: The Strategy of Restraint in the Face of Temptation," *America's Strategic Choices*, December 1997.
- Eugene Gholz and Harvey Sapolsky, "Restructuring the American Defense Industry," paper prepared for Social Science Research Council study, January 1998.
- Lisbeth Gronlund, "ABM: Just Kicking the Can," *Bulletin of the Atomic Scientists*, January/February 1998, pp. 15-16.
- Lisbeth Gronlund, "Nuclear Arms Control Since The End of the Cold War," Social Science Research Council, Program on International Peace and Security, newsletter, February 1998.
- Eric Labs, "Beyond Victory: Offensive Realism and the Expansion of War Aims," *Security Studies*, Vol. 6, No. 4, Summer 1997.
- George Lewis, "The Revival of Missile Defense (and the Stalemate of Nuclear Reductions?)," to be published in *Nuclear and Conventional Disarmament: Progress or Stalemate, Proceedings of the Seventh Castiglione Conference, 1997*.
- George Lewis, "Ballistic Missile Defenses and Deep Nuclear Reductions," in *From Non-Proliferation towards a Nuclear-Weapon-Free-World: Proceedings of 1997 INESAP Conference* (Darmstadt, Germany: INESAP, 1997).
- George Lewis and Theodore Postol, "Future Challenges to Ballistic Missile Defense," *IEEE Spectrum*, September 1997.
- George Lewis and He Yingbo, "U.S. Missile Defense Activities and the Future of the ABM Treaty," *Physics and Society*, January 1998.
- Barry Posen, "Can Military Intervention Limit Refugee Flows?" in *Migrants, Refugees, and Foreign Policy*, Rainer Munz and Myron Weiner, eds., (Oxford: Berghahn Books) 1997.
- Barry Posen and Andrew L. Ross, "Competing Visions for U.S. Grand Strategy," *America's Strategic Choices*, December 1997.

**SELECTED
PUBLICATIONS**

Daryl Press, "Lessons from Ground Combat in the Gulf: The Impact of Training and Technology," *International Security*, Vol. 22, No. 2, Fall 1997.

Richard Samuels and Eric Heginbotham, "Mercantile Realism and Japanese Foreign Policy," In Michael Mastanduno and Ethan Kapstein, eds. *Unipolar Politics*, (NY: Columbia University Press) forthcoming.

Harvey M. Sapolsky, review of Theo Farrell *Weapons Without a Cause: The Politics of Weapons Acquisition in the U.S.*, in *Contemporary Security Policy*, Winter 1997.

Harvey M. Sapolsky and Eugene Gholz, "Arms and the European," *Financial Times*, May 20, 1998.

Harvey M. Sapolsky and Eugene Gholz, "Indefensible Defense Costs," *Wall Street Journal*, July 11, 1997.

Harvey M. Sapolsky, "Casualties, CNN, and Modern American Wars," in Robert Pfaltzgraff and Richard Synder, editors, *The Role of Naval Forces in 21st Century Operations*, forthcoming Brassey's.

Stephen Van Evera and Dan Byman, "Why They Fight: the Causes of Contemporary Civil Conflict," *Security Studies*, Spring 1998.

Stephen Van Evera, "Offense, Defense, and the Causes of War," *International Security*, Spring 1998.

Richard Wilcox, "Do Bosnian Serbs face the same fate as Croatia Serbs?" *The Boston Globe*, Thursday, September 11, 1997.

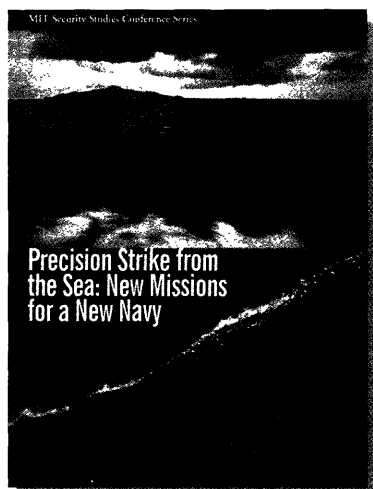
David Wright, "A Technical Assessment of the Launch Hazard Area in Cudjoe Key, Florida," Union of Concerned Scientists Technical Report, March 1998.

David Wright, "A Cost-Benefit Analysis of Ballistic Missile Defense," *Current Decisions*, vol. 18 (Oxford Research Group), July 1997, 43-7.

David Wright, "An Analysis of the Pakistani Ghauri Missile Test of 6 April 1998," *Science and Global Security*, Summer 1998.

SSP PROGRAM PUBLICATIONS 1997/1998

MIT SECURITY STUDIES CONFERENCE SERIES

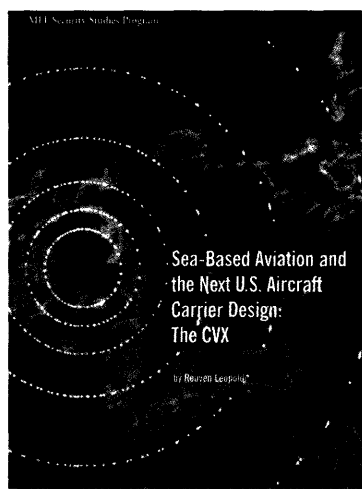


"The Global Positioning System: Civil and Military Uses" is a summary report for the 4th Annual James H. Doolittle Conference, held on April 3, 1997 at the Royal Sonesta Hotel in Cambridge.

"Antisubmarine Warfare After the Cold War," is a summary report of a MIT Security Studies Conference, held on June 11 and 12, 1997 in Lexington, MA.

"Precision Strike from the Sea: New Missions for a New Navy" is a summary report of the second annual Levering Smith Conference, held on December 8 and 9, 1997 at the Royal Sonesta Hotel in Cambridge.

OCCASIONAL PAPERS



Reuven Leopold, "Sea-Based Aviation and the Next U.S. Aircraft Carrier Design: The CVX," SSP Occasional Paper, January 1998.






SSP SEMINAR NOTES

Summaries of the SSP Seminar Series presentations.

EARLY WARNING

SSP Newsletter produced eight months per year.

BREAKTHROUGHS

BREAKTHROUGHS	
SPRING 1998 VOL. VII, NO. 1	
 Military Privatization: The Future of the Force Projection Industry <i>Jeremy Shapiro</i>	1
 The Russian Strategic Forces: Uncertain Future <i>Paul Podvig</i>	11
 On the Myth of Chinese Power Projection Capabilities <i>Rick Reece</i>	22
 Will North Korea Negotiate Away Its Missiles? <i>David Wright</i>	29
 The Environmental Security Problem: Does the US Have a Policy? <i>James Lloyd Foster and Jorn Siljeholm</i>	37
Also In this Issue: Faculty Spotlight, News Notes, Snapshots and Ghazis on Defense Costs, and Recent Publications	47
MITSSP Security Studies Program Massachusetts Institute of Technology, Cambridge, MA	

VOL. VII, NO. 1, SPRING 1997

Jeremy Shapiro, "Military Privatization: The Future of the Force Projection Industry"

Paul Podvig, "The Russian Strategic Forces: Uncertain Future"

Rick Reece, "On the Myth of Chinese Power Projection Capabilities"

David Wright, "Will North Korea Negotiate Away Its Missiles?"

James Lloyd Foster and Jorn Siljeholm, "The Environmental Security Problem: Does the US Have a Policy?"

Faculty Spotlight: Steve Van Evera

TEACHING AT SSP

The Program's courses – what MIT prefers to call subjects – are open to all students eligible to attend classes at MIT, including cross-enrollers from Harvard and Wellesley. Most of the subjects are offered at the graduate level and through the Political Science Department.

Political Science doctoral candidates may use Security Studies as one of their fields of concentration. Within that context, security studies has two principal objectives: first, it introduces the student to the study of American defense policy, including the policy process, arms control, force structure, and military budgets. Second, it introduces the student to the study of the role of force in international politics and how countries have historically pursued their security interests. Students are expected to develop competence in the methods of systems analysis, technology assessment, and strategic reasoning that shape the size and composition of U.S. strategic nuclear and general-purpose forces. The international military competition, the prospects for arms control and their implications for U.S. force planning receive special consideration in several subjects. Others examine some of the same issues by contrasting U.S. experiences and approaches with those of rivals and allies.

Students who plan to offer Security Studies for the general examination take two subjects from those listed below in the Forces and Force Analysis section, and one subject each from the listing in the Defense Politics and in the Comparative Defense Policy sections. Competence in technical analysis is required. A background in economics to intermediate level with particular emphasis on macroeconomics and public finance is advisable. The subjects in the Forces and Force Analysis section will provide sufficient review of the technical approaches to be examined.

The write-off requirement is three subjects with equal distribution among the three sections preferred although approval for alternative distributions may be granted in consultation with field faculty. A number of substantive fields in the Political Science Department deal with important determinants of U.S. defense programs and expenditures. Among the most closely related are: Science, Technology and Public Policy; American Politics; International Relations and Foreign Policy; and Soviet Studies. Students of defense policy are also encouraged to take subjects in economics.



RALL © 1998 Ted Rall. Reprinted with permission of UNIVERSAL PRESS SYNDICATE. All rights reserved.

FORCES AND FORCE ANALYSIS

17.476 **Analysis of Strategic Nuclear Forces** (Postol) [G]
STS.516

Introduces the assessment of strategic nuclear forces. Emphasizes the development of force requirements and methods of analyzing alternative force postures in terms of missions, effectiveness, and cost. The history of U.S.-Soviet strategic competition provides the backdrop against which the evolution of nuclear strategy and forces is considered.

17.477 **Technology and Policy of Weapons Systems** (Postol) [U]
STS.076

Examines in detail the technology of nuclear weapons systems. Topics include nuclear weapons design, effects, targeting, and delivery; ballistic and air breathing missile propulsion and guidance; communications and early warning techniques and systems; and anti-missile, air, and submarine systems. Combines the discussion of technical materials with the national security policy issues raised by the capabilities of those technologies. Considers security issues from the distinct and often conflicting perspectives of technologists, military planners, and political leaders.

17.482/17.483 **U.S. General-Purpose Forces** (Posen/Postol) [U/G]

Based on the concept of Grand Strategy as a system of inter-connected political and military means and ends. Topics covered include U.S. grand strategy, the organization of the U.S. military, the defense budget, ground forces, tactical air forces, naval forces, power projection forces, and the control of escalation. Particular episodes of military history that offer insights into current conventional forces issues are examined. Graduate students are expected to pursue the subject at greater depth through reading and individual research.

AMERICAN DEFENSE POLITICS

17.403 **American Foreign Policy: Past, Present, Future** (Van Evera) [U]

Subject's mission is to explain and evaluate America's past and present foreign policies. What accounts for America's past wars and interventions? What were the consequences of American policies? Overall, were these consequences positive or negative for the U.S.? For the world? Using today's 20/20 hindsight, can we now identify policies that would have produced better results? History covered includes World Wars I and II, the Korean and Indochina wars, and the Cuban Missile Crisis. Recent and contemporary crises and issues also covered.

17.428 **American Foreign Policy: Theory and Method** (Van Evera) [G]

Examines the causes and consequences of American foreign policy since 1898. Readings cover theories of American foreign policy, historiography of American foreign policy, central historical episodes including the two World Wars and the Cold War, case study methodology, and historical investigative methods. Open to undergraduates by permission of instructor.

17.460 **Defense Politics** (Sapolsky) [G]

Examines the politics affecting U.S. defense policies. Includes consideration of intra- and inter-service rivalries, civil-military relations, contractor influences, congressional oversight, peace movements in historical and contemporary perspectives, and U.S. defense politics before, during and after the Cold War.

COMPARATIVE DEFENSE POLICY

17.423 **The Causes and Prevention of War** (Van Evera) [U]

Examines the causes of war, with a focus on practical measures to prevent and control war. Topics covered include: causes and consequences of national misperception; military strategy and policy as cause of war; U.S. foreign policy as a cause of war and peace; and the likelihood and possible nature of another world war.

17.432 **Causes of War: Theory and Method** (Van Evera) [U]

Examines the causes of war. Major theories of war are examined; case-study and large-n methods of testing theories of war are discussed; and the case-study method is applied to several historical cases. Cases covered include World Wars I and II.

17.539/17.540 **Politics & Policy in Contemporary Japan** (Samuels) [U/G]

Analyzes contemporary Japanese politics, focusing primarily upon the post-World War II period. Includes examination of the dominant approaches to Japanese politics and society, the structure of the party system, the role of political opposition, the policy process, foreign affairs, and interest groups. Attention to defense, foreign, industrial, social, energy, technology policy processes. Graduate Students are expected to pursue the subject at greater depth through reading and class presentations.

17.462 **Innovation in Military Organizations** (Posen and Sapolsky) [G]

Explores the origins, rate, and impact of innovations in military organizations, doctrine, and weapons. Emphasis on organization theory approaches. Comparisons with non-military and non-U.S. experience included.

17.468 **Foundation of Security Studies** (Van Evera) [G]

Aims to develop a working knowledge of the theories and conceptual frameworks that form the intellectual basis of security studies as an academic discipline. Particular emphasis on balance of power theory, organization theory, civil-military relations, and the relationship between war and politics.

17.484 **Comparative Grand Strategy and Military Doctrine** (Posen) [G]

A comparative study of the grand strategies and military doctrine of the great powers in Europe (Britain, France, Germany, and Russia) from the late 19th to the mid-20th century. Examines strategic developments in the years preceding and during World Wars I and II. What factors have exerted the greatest influence on national strategies? How may the quality of a grand strategy be judged? What consequences seem to follow from grand strategies of different types? Open to undergraduates with permission of instructor.

SSP-AFFILIATED DEGREE RECIPIENTS, 1997/1998

DANIEL LINDLEY

PhD, Political Science, February 1998

Transparency and the Effectiveness of Security Regimes: A Study of Concert of Europe Crisis Management and United Nations Peacekeeping

Committee: Stephen Van Evera (Chair), Barry Posen, Kenneth Oye

BRIAN TAYLOR

PhD, Political Science, February 1998

The Russian Military in Politics: Civilian Supremacy in Comparative and Historical Perspective

Committee: Stephen Meyer (Chair), Barry Posen, Donald Blackmer

KEVIN O'PREY

PhD, Political Science, June 1998

Russian Defense Enterprise Adaptation - 1984-1995: Coping with Political-Economic Reform and Transformation

Committee: Harvey M. Sapolsky (Chair), Donald Blackmer, David Woodruff, Clifford Gaddy

SHARON WEINER

PhD, Political Science, June 1998

Defending Congress: The Politics of Defense Organization

Committee: Harvey M. Sapolsky (Chair), Barry Posen, Daniel Kryder, Charles Stewart

GRADUATE STUDENTS 1997/1998

Ph.D. Candidates — Post-Generals

J. Nicholas Beldecos	Princeton University <i>(Politics)</i>
David Burbach	Pomona College <i>(Government)</i>
Jane Kellett Cramer	Oberlin College <i>(English)</i>
Rodney Fabrycky	Princeton University <i>(International Relations)</i>
Eugene Gholz	MIT <i>(Political Sci./Materials Science and Engineering)</i>
Peter Goldstone	University of Chicago <i>(Political Science)</i>
Kelly Greenhill	University of California, Berkeley <i>(Political Economy of Industrialized Societies/Scandinavian Studies)</i>
	MIT <i>(Political Science)</i>
Eric Heginbotham	Swarthmore College <i>(Political Science)</i>
Jonathan Ladinsky	University of Chicago <i>(Political Science)</i>

Jennifer Lind	University of California, Berkeley <i>(English)</i>
	UCSD, <i>(IR/Pacific Studies)</i>
David Mendeloff	Pitzer College, Claremont <i>(International Relations)</i>
Daryl Press	University of Chicago <i>(Political Science)</i>
Jeffrey Sands	Amherst College <i>(American Studies)</i>
Taylor Seybolt	Haverford College <i>(Political Science)</i>
Jeremy Shapiro	Harvard University <i>(Government)</i>
Christopher Twomey	University of California, San Diego <i>(Economics/International Affairs)</i>
Chikako Ueki	Sophia University <i>(International Relations/French)</i>
Benjamin Valentino	Stanford University <i>(Politics)</i>

**GRADUATE
STUDENTS**

James Walsh	Brown University <i>(Philosophy)</i>	Jacob Zimmerman	Princeton University <i>(Politics)</i>
Richard Wilcox	The Citadel Georgetown University <i>(International Studies)</i>		

Pre-Generals or Master's Students

Sara Berman	Georgetown University <i>(International Politics)</i>	Daniel Landau	University of Southern California <i>(Print Journalism)</i>
Rafael Bonoan	Columbia University <i>(International Security)</i>	Olya Oliker	Kennedy School of Government, Harvard University <i>(Public Policy/International Affairs)</i>
Andrea Gabbitas	University of Chicago <i>(Political Science)</i>		
Michael George	West Point <i>(International Relations)</i> Queen's College, Oxford University <i>(Philosophy/Politics)</i>	Jessica Wattman	Columbia University <i>(French Literature)</i> Kennedy School of Government, Harvard University <i>(Public Policy)</i>
Yinan He	Fudan University <i>(International Relations)</i>		
Carol Kuntz	Princeton University <i>(International Relations)</i>	Timothy Wolters	University of Notre Dame <i>(Computer Applications/History)</i> University of Maryland, College Park
Alan Kuperman	Johns Hopkins <i>(International Relations)</i>		



Our Graduate Students, under heavy escort, waiting for the snack bar to open at the National Training Center, Ft. Irwin, California

SSP VISITORS AND AFFILIATES

Lisbeth Gronlund

Visiting Scholar

Lisbeth Gronlund is a Senior Staff Scientist at the Union of Concerned Scientists, a public interest research group based in Cambridge, MA. After receiving a PhD in theoretical physics from Cornell University in 1988, she made her first foray to MIT SSP, spending two years as a postdoctoral fellow. She then became a senior visiting scholar in the Center for International Security Studies at the University of Maryland, College Park, and is currently on the Executive Committee of the American Physical Society's Forum on Physics and Society. Dr. Gronlund's research has focused on technical aspects of arms control, and she has written on the issues of depressed-trajectory ballistic missiles, space-based and ground-based ballistic missile defenses, and the proliferation of ballistic missiles. She is currently carrying out a study, with other members of the MIT SSP Technical Working Group, on the implications of advanced theater missile defenses for the ABM Treaty.

Lieutenant Colonel Richard C. Halbleib

U.S. Army Fellow

Richard Halbleib holds a Bachelor of Arts degree in Political Science and History, two Master of Arts degrees in Education and two Master of Military Arts and Science degrees. His military assignments include: serving in the Office of the Army Deputy Chief of Staff for Intelligence, the Pentagon; Commander, 527th Military Intelligence Battalion (Augsburg, Germany) - deployments to Rwanda and the former Yugoslavia; Chief of Plans First Marine Expeditionary Force (JTF RestoreHope Somalia); during Desert Shield/Storm he was Chief of Plans Targeting and Battle Damage Assessment for Army Central Command; and Office of the Joint Chiefs of Staff including the Bronze Star Medal, Defense Meritorious Service Medal, Army Meritorious Service Medal (with 3 oak leaf cluster), the Army Commendation Medal and the Army Achievement Medal.

He Yingbo

Visiting Fellow

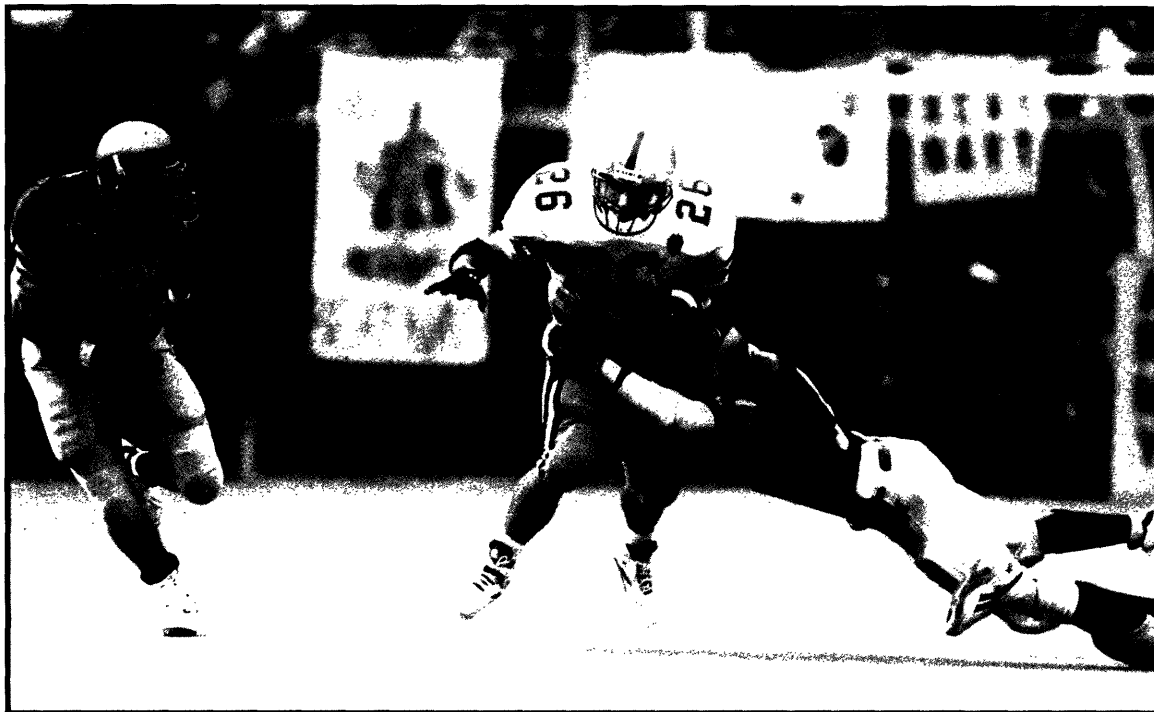
He Yingbo received his BS from the Department of Mechanics, Beijing University, in 1986, and received his MS in 1989. After that, he worked at the Institute of Structural Mechanics, China Academy of Engineering Physics for eight years. During these years, he spent most of his efforts on research in the area of structural impact dynamics. He became interested in arms control issues at the end of 1995 and became a member of the Program for Verification Technology Studies at CAEP. He is now a visiting scholar at MIT's Security Studies Program, where he works on missile defense and ABM treaty-related issues.

Commander Leah Johnson

Navy Federal Executive Fellow

Leah Johnson received her commission in the U.S. Navy from Officer Candidate School, Newport, RI, in 1980. She then attended Communication Officer and Anti-Submarine Warfare (ASW) schools before reporting to her first assignment as an operations watch officer at Naval Facility, Iceflavik, Iceland. She continued working in the ASW arena in her following tours at Naval Facility, Bermuda, Commander Operational Test and Evaluation personnel support. In 1994, CDR Johnson graduated from the Naval War

VISITORS



The only kind of interservice rivalry allowed today

College followed by the Armed Forces Staff College. She then attended the Defense Language Institute in preparation for her most recent tour in the field of Security Assistance at the Office of Defense Cooperation, Tunisia.

Allen Kaufman

Visiting Scientist

Dr. Allen Kaufman is Hubbard Professor of Strategic Management, Whittemore School of Business, University of New Hampshire. He received his SM in Political Science from the Massachusetts Institute of Technology and a PhD in history from Rutgers University. Dr. Kaufman is author of *Managers vs. Owners: The Struggle for Corporate Control in American Democracy* as well as numerous other studies on corporate strategy, social issues management and business history. His research with the MIT SSP Working Group on the Management of the Cold War focuses on the relationships between the Air Force and the aerospace industry.

Lieutenant Colonel Allen Kirkman, Jr.

Air Force Fellow

Allen Kirkman was recently Executive Officer at the Joint Chiefs of Staff for the Deputy Director for Operations, Current Readiness and Capabilities at the Pentagon, Washington, DC. Previously, he was an Operations Officer in both the Nuclear Operations and the Current Readiness and Capabilities Division of the Joint Chiefs of Staff. He has a wide background in space and missile systems. Lt. Col. Kirkman holds an undergraduate degree in Biology/Chemistry and graduate degrees in Human Resources Management and National Security and Strategic Studies. He is a graduate of Squadron Officer School, the Marine Corps Command and Staff College, Air Command and Staff College, Naval Command and Staff College, Joint Professional Military Education, Phase II from the Armed Forces Staff College, and Air War College.

Joyce Lee Malcolm

Visiting Scholar

Joyce Lee Malcolm is Professor of History at Bentley College as well as the Founder and Director of the New England Heritage Center at Bentley. Her most recent book, *To Keep and Bear Arms: The Origins of an Anglo-American Right* is the first full-scale study by a professional historian of the origins of a significant and controversial liberty, the right to be armed.

M.V. Ramana

Visiting Fellow

M. V. Ramana received his undergraduate degree in Physics from the Indian Institute of Technology, Kanpur. After completing his PhD in theoretical particle physics from Boston University in 1994, he was a postdoctoral research associate at the University of Toronto. In 1996, he was awarded an SSRC-MacArthur Foundation Postdoctoral Fellowship on Peace and Security in a Changing World. His interests include South Asian nuclear policy, the fissile material cutoff and the human costs related to energy production and use.

Lieutenant Colonel Rick Reece

Marine Corps Fellow

Rick Reece is an infantry officer in the U.S. Marine Corps. His experience includes worldwide service with the operating forces and staff assignments as an operations analyst with the Operational Test Activity and the Manpower department at the Marine Corps headquarters in Arlington, VA. He served a recent tour as an instructor with the Special Operations Training Group in Okinawa, Japan. He holds a Master of Science Degree in Operations Research from the Naval Postgraduate School in Monterey, CA; is a distinguished graduate of the U.S. Marine Corps Command and Staff College, where he earned a Master of Military Studies degree; and is a recent alumnus of Seminar XXI: Foreign Policies, International Relations and the National Interest.

Laura Reed

Visiting Scientist

Laura Reed received her PhD in Political Science from the Massachusetts Institute of Technology in February 1995 and was an Assistant Professor at Wellesley College during the Spring Semester of 1995. Formerly a program officer of the Committee on International Security Studies (CISS) at the American Academy of Arts and Sciences, she has edited CISS volumes including: *Lethal Commerce: The Global Trade in Small Arms and Light Weapons* (with Jeffrey Boutwell and Michael Klare), *Collective Responses to Regional Problems: The Case of Latin America and the Caribbean* (with Robert Pastor and Carl Kaysen), and *Emerging Norms of Justified Intervention* (with Carl Kaysen). Her current research examines the feasibility of a United Nations military force.

Sanford Weiner

Visiting Scholar

Sanford Weiner is a Visiting Scholar at the Center for International Studies. Before coming to CIS, he was on the staff at the Energy Laboratory and the Center for Technology, Policy and Industrial Development. His research interests focus on the interplay of international and domestic public policy making in technical areas. With James Maxwell he conducted a study of the phase-out of CFCs because of concerns about their impact on the ozone layer. The study looked at the interaction of scientific groups, governments, and corporations in bringing about this shift. He is now working closely with Harvey Sapolsky on issues of the closing or conversion of former DOD bases and DOE production sites, and the environmental restorations that may be necessary at many of them. He has also collaborated with Professor Sapolsky on studies of state and federal health care reform.

VISITORS

Moshe (Micky) Weiss

Visiting Fellow

Micky did his undergraduate work in Physics and in Electrical Engineering at the Technion-Israel Institute of Technology (1974). He earned a MSc from Technion (1979) and a PhD from Princeton (1985), all in EE; specializing in communication theory and information sciences and systems. Since 1975 he has been with RAFAEL, Israel's Armament Development Authority, at the Electronic Combat Analysis & Simulation Center (ECA&SC) – Israel's national lab for R&D of countermeasure techniques and their operational doctrine. His latest position there was the head of the center. He also served in several RAFAEL and Israel Defense Forces (IDF)/Ministry of Defense (MOD) committees supervising advanced weapon systems R&D, and their operational doctrine. In 1995 he was awarded RAFAEL's annual award for outstanding R&D mission accomplishment. On a Sabbatical from RAFAEL, Mickey joined the MIT SSP Defense Technology Group, where he has been working on the physical and engineering fundamental limits of ballistic missile defense systems.

David Wright

Research Fellow

David Wright received his PhD in theoretical condensed matter physics from Cornell University in 1983, and held physics research positions until 1988. He received an SSRC-MacArthur Fellowship in International Peace and Security to retrain in international security issues, and spent two years in the Center for Science and International Affairs at Harvard University. Thereafter he joined the staff of the Federation of American Scientists as a Senior Arms Control Analyst and has been a Senior Staff Scientist at the Union of Concerned Scientists. Dr. Wright's recent research has included depressed-trajectory SLBMs, strategic defenses after the Cold War, and the proliferation of ballistic missiles and nuclear weapons. At MIT SSP he has focussed on the distinction between tactical and strategic missile defenses and an evaluation of the proposed Theater High Altitude Area Defense (THAAD) system, and the implications of advanced missile defense systems for the ABM Treaty.

SECURITY STUDIES PROGRAM

FACULTY	HARVEY M. SAPOLSKY, DIRECTOR	(617) 253-5265
	<i>Professor of Public Policy and Organization</i>	
	THOMAS J. CHRISTENSEN	(617) 258-8431
	<i>Associate Professor of Political Science</i>	
	OWEN R. COTE, JR.	(617) 258-7428
	<i>Associate Director, MIT Security Studies Program</i>	
	CARL KAYSEN	(617) 253-4054
	<i>Professor of Science, Technology and Society Emeritus</i>	
	GEORGE N. LEWIS	(617) 253-3846
	<i>Associate Director, MIT Security Studies Program</i>	
	MARVIN M. MILLER	(617) 253-3848
	<i>Senior Research Scientist, Nuclear Engineering and Center for International Studies</i>	
	BARRY R. POSEN	(617) 253-8088
	<i>Professor of Political Science</i>	
	THEODORE A. POSTOL	(617) 253-8077
	<i>Professor of Science, Technology and National Security Policy</i>	
	GEORGE W. RATHJENS	(617) 253-7282
	<i>Professor of Political Science Emeritus</i>	
	JACK RUINA	(617) 253-7281
	<i>Professor of Electrical Engineering Emeritus</i>	
	RICHARD SAMUELS	(617) 253-2449
	<i>Ford Professor of Political Science</i>	
	STEPHEN VAN EVERA	(617) 253-0530
	<i>Associate Professor of Political Science</i>	

STAFF
AMY BRIEMER
KRISTEN CASHIN
LYNNE LEVINE
BRANDI SLADEK

THE MIT CENTER FOR INTERNATIONAL STUDIES

Established in 1952, the Center for International Studies is the principal research center within MIT dealing with international relations and comparative area studies. Located within the School of Humanities and Social Science, the Center draws faculty and staff from throughout MIT and its activities are intended to serve the Institute as a whole.

Director
Executive Director
Administrative Officer
Administrative Assistant
Purchasing Administrator

KENNETH OYE
WILLIAM KELLER
DEBORAH GRUPP
LAURIE SCHEFFLER
AMY BRIEMER
JOHN MAHER

SECURITY STUDIES PROGRAM
Massachusetts Institute of Technology
292 Main Street (E38-603)
Cambridge, MA 02139

NON-PROFIT ORG.
U.S. POSTAGE
PAID
CAMBRIDGE, MA
PERMIT NO. 54016